

THE AMERICAN SPIDER GENERA
SPINTHARUS AND *THWAITESIA*
(ARANEAE: THERIDIIDAE)*

BY HERBERT W. LEVI

Museum of Comparative Zoology, Harvard University

The two genera *Spintharus* and *Thwaitesia* are very similar. I have not combined them, however, because I expect that additional species may throw new light on the relationship. Both genera are close to *Episinus* in genitalic structure, general appearance, and in possession of a small spigot at the anterior pair of spinnerets (Levi and Levi, 1962).

Thwaitesia has never been revised. North American *Spintharus* has previously been revised (Levi, 1955). On reexamining a few specimens, I began to think that I had confused several species in my previous revision and that the specimens could easily be sorted out into three species. Reexamination of larger collections, however, reestablished my previous observation that the genitalia of *Spintharus* are variable and that there are at most two species. Evidence for this is presented in Figures 1 and 2.

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Spintharus Hentz

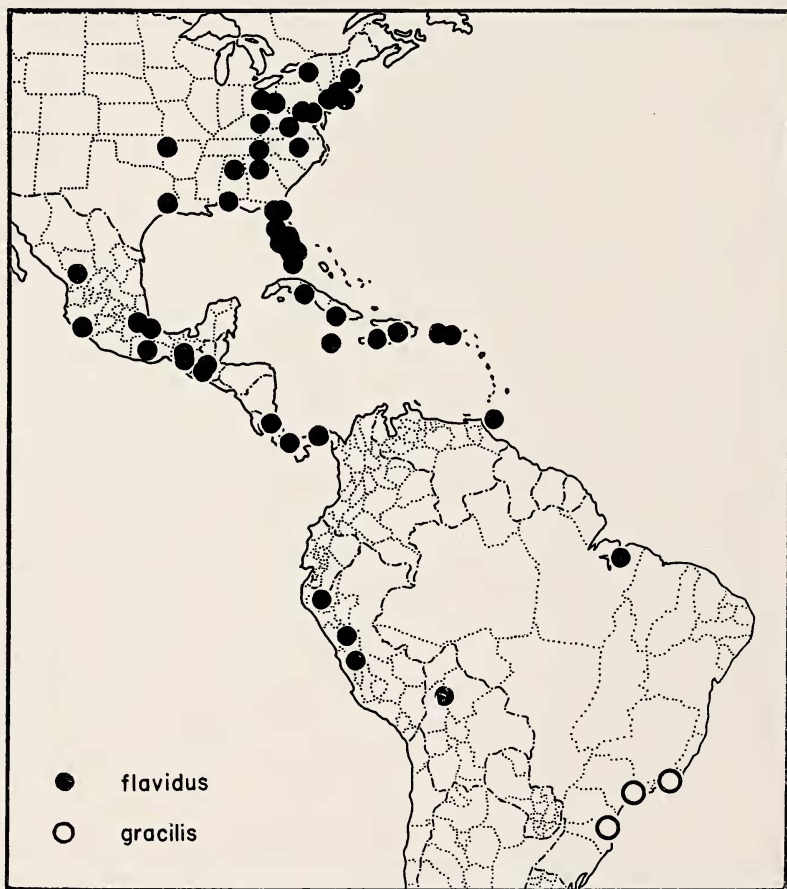
Spintharus Hentz, 1850, Jour. Boston Soc. Nat. Hist., 6: 284. Type species by monotypy: *Spintharus flavidus* Hentz.

*Manuscript received by the editor April 29, 1963.

Description. Carapace nearly circular, weakly sclerotized. Posterior median eyes separated by about three diameters. Chelicerae small. Legs long, first patella and tibia 1.5-3.0 times carapace length. Abdomen longer than wide, widest anterior (Figs. 6, 7).

Diagnosis. Separated from *Argyroides* by having two setae in place of colulus, from *Episinus* by having different abdominal shape, the abdomen being longer than wide, widest anterior, and by lacking horns in eye region and not having eyes on tubercles. Unlike *Thwaitesia*, *Spintharus* lacks silvery spots and has the posterior median eyes far apart.

Distribution. Known from only two American species.



Map 1. Distribution of *Spintharus* species.

Problems. The specimens of *S. flavidus* are variable in structure. They sometimes have an elevated eye region or humps on the anterior of the abdomen (Levi, 1955). Reexamining larger collections re-established my previous observation that the genitalia of *Spintharus* are variable. Evidence is presented in Figures 1 and 2. Of interest is the much shorter embolus in the palpus of a North Carolina specimen (F) and in one series from Panama (R). A second series from the same Panamanian locality contained three individuals with emboli of variable length (Q). The ducts of the female epigynum also seem variable in length, but since their study means damaging specimens, this was not done. This might be advisable when more specimens are on hand.

Spintharus flavidus Hentz

Figures 1, 2K-U, W, 3-9

Spintharus flavidus Hentz, 1850, Jour. Boston Soc. Nat. Hist., 6: 284, pl. 10, fig. 8, ♀. Types from Alabama, lost. — Levi, 1955(1954), Jour. New York Ent. Soc., 62: 79, figs. 46, 43-50, 52, 53, ♀, ♂.

Spintharus elongatus Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 1: 178, pl. 8, fig. 108, ♀. Female type from Tambillo, [1850 m Cajamarca, prov. Jean] Peru in the Polish Academy of Sciences, Warsaw.

Spintharus lineatus O. P-Cambridge, 1896, Biología Centrali-Americana, Araneidea, 1: 190, pl. 23, fig. 11, ♂. Male holotype from Chichochoch [?], Guatemala in the British Museum.

Spintharus affinis O. P-Cambridge, 1896, *op. cit.* 1: 190, pl. 24, fig. 2, ♂. Male holotype from Cobán, Guatemala in the British Museum.

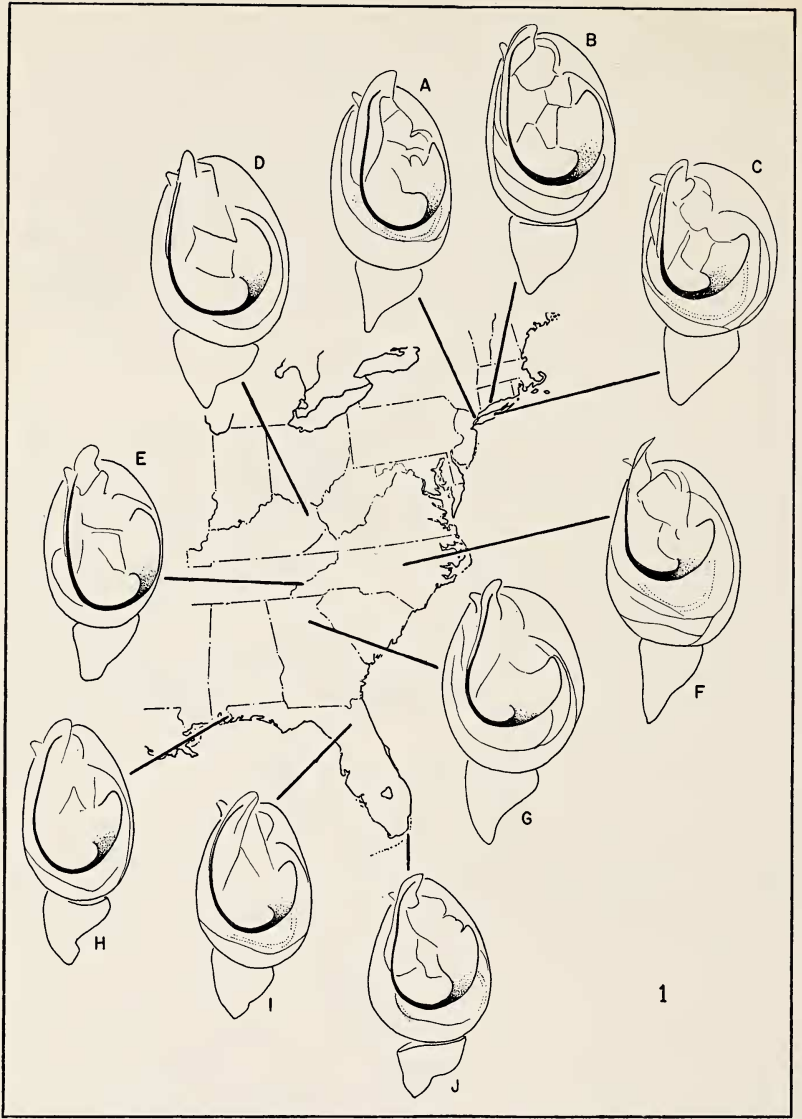
Spintharus hentzi Levi, 1955(1954), Journ. New York Ent. Soc., 62: 83, figs. 47, 51, 54, 55, ♀. Female holotype from Trinidad, Lesser Antilles, in the American Museum of Natural History. NEW SYNONYMY.

Distribution. Eastern United States to Peru and northern Brazil (Map 1)

Additional records: *United States.* *District of Columbia:* Washington (N. Banks). *Tennessee.* Great Smoky Mtn. Natl. Park, Newfound Gap (P. J. Darlington). *Arkansas.* Washington Co.: S. of Prairie Grove (M. Hite). *Texas.* Hardin Co.: Saratoga (J. Bequaert); Old Hardin (A. Brady).

Mexico. *Puebla:* ? Tehiutlan (H. Wagner, AMNH). *Oaxaca:* Oaxaca (AMNH). *Costa Rica:* San Isidro del General, 600-1200 m (D. Rounds); San José (E. Schmidt, AMNH). *Panama.* El Volcán (A. M. Chickering); Boquete (A. M. Chickering). *Panama Canal Zone.* Forest Reserve (A. M. Chickering); Barro Colorado Isl. (many collections).

Cuba. *Oriente:* S. side of Pico Turquino (P. J. Darlington). *Las Villas:* Soledad (P. J. Darlington). *Jamaica:* John Crow Mtns. WSW of Ecclestown (A. F. Archer, AMNH); Claremont (P. Vaurie, AMNH). *Haiti:* La Visite (P. J. Darlington); NE of La



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Hotte (P. J. Darlington). *Dominican Republic*. S of Santiago (P. J. Darlington); Loma Rucilla (P. J. Darlington). *Puerto Rico*: El Yunque (P. J. Darlington); Maricao Forest (P. J. Darlington). *Virgin Isl.* St. John (A. F. Archer, AMNH).

Peru. *Huánuco*: Tingo María (J. C. Pallister, AMNH). *Junín*: Pan de Azúcar, Río Tarma, 1400 m (A. M. Nadler, AMNH). *Brazil*. *Pará*: Belém (A. M. Nadler, AMNH). *Bolivia*. *Beni*: Rurrenabaque, 10 Nov. 1956, ♀ (L. Peña, ISNB).

Spintharus gracilis Keyserling

Figures 2V, 10-13

Spintharus gracilis Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2 (2): 244, pl. 20, fig. 298, ♀, ♂. Syntypes from Blumenau, [Santa Catarina], Brazil, in the British Museum, examined.

Spintharus flavidus, — Mello-Leitao, 1943, Arq. Museu Nacional, Rio de Janeiro, 37: 168, fig. 11, ♂, Not *S. flavidus* Hentz.

Description. Carapace of female yellow-white; eyes on black spots; male with a black band on each lateral margin. Sternum yellow-white. Legs yellow in female; male with some longitudinal black stripes and ends of femora and tibiae black, patellae black. Abdomen of female yellow-white, without pigment in alcohol; that of male with some gray pigment on sides. Lateral eyes of females two diameters of anterior medians, posterior medians one and one-half diameters of anterior medians. Eyes of male about sub-equal in size. Female with anterior median eyes one diameter apart, almost touching laterals. Posterior median eyes three and one-half diameters apart, touching laterals. Anterior median eyes of male one-third diameter apart, almost touching laterals. Posterior median eyes two diameters apart, one-third diameter from laterals. Total length of female 3.7 mm. Carapace 0.9 mm long, 0.8 mm wide. Abdomen 2.8 mm long, 0.9 mm wide. First patella and tibia, 1.6 mm; second, 1.0 mm; third, 0.7 mm. Fourth femur, 2.3 mm; patella and tibia, 2.0 mm; metatarsus, 2.4 mm; tarsus, 0.6 mm. Total length of male 2.3 mm. Carapace 0.8 mm long, 0.8 mm wide. First patella and tibia, 1.3 mm; second, 0.7 mm; third, 0.5 mm. Fourth femur, 1.7 mm; patella and tibia, 1.3 mm; metatarsus, 1.5 mm; tarsus, 0.5 mm.

Fig. 1. Variation in palpal structure of *Spintharus flavidus*, United States. A. Alpine, Bergen Co., New Jersey. B. New Haven, Connecticut. C. Long Island, New York. D. Olive Hill, Carver Co., Kentucky. E. New-found Gap, Great Smoky Mountain Natl. Park, Tennessee. F. Raleigh, North Carolina. G. Athens, Georgia. H. Baldwin Co., Alabama. I. Gainesville, Florida. J. Tavernier, Monroe Co., Florida.

Records. Brazil. Guanabara: Paineiras, Cidade Rio de Janeiro, 22 Jan. 1949 (A. M. Nadler, AMNH). *São Paulo:* Jabaquara, Cidade São Paulo, 21 Dec. 1945 (H. Sick, AMNH); São Paulo, 13 Jan. 1959 (A. M. Nadler, AMNH).

Thwaitesia O. P.-Cambridge

Thwaitesia O. P.-Cambridge, 1881, Proc. Zool. Soc. London, 1881: 766.

Type species by monotypy: *T. margaritifera* O. P.-Cambridge, 1881 from Ceylon.

Description. Carapace nearly circular. Posterior median eyes separated by their diameter or less. Chelicerae small, without teeth. Legs long, first patella and tibia 2.0-3.5 times carapace length. Abdomen usually higher than wide with silvery spots. The genitalia are similar to those of *Spintharus*. Both have palpi with a large conductor and duct looping through the median apophysis (Levi and Levi, 1962).

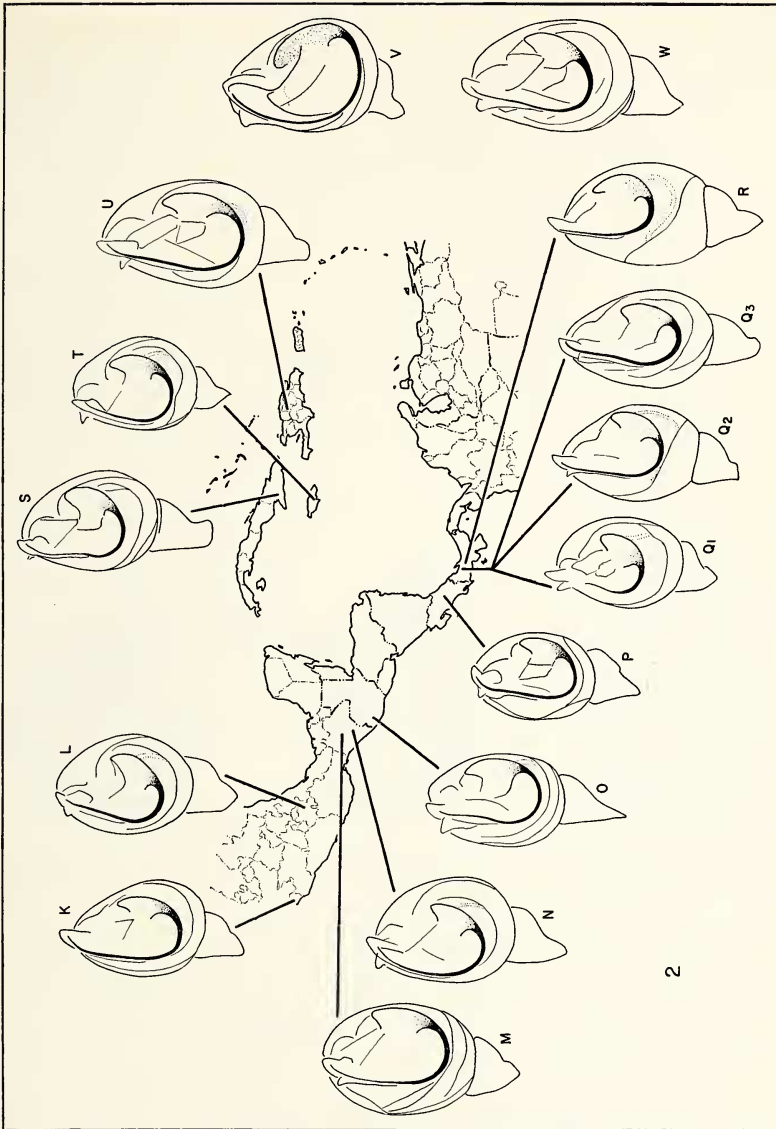
Diagnosis. Separated from *Argyrodes* by having two setae in place of colulus, from *Episinus* by different shape of abdomen (Figs. 14, 15), by lacking horns in eye region and not having tubercles. *Thwaitesia* differs from *Spintharus* by having the posterior median eyes closer together.

Distribution. Probably world-wide in tropics. Four species from America.

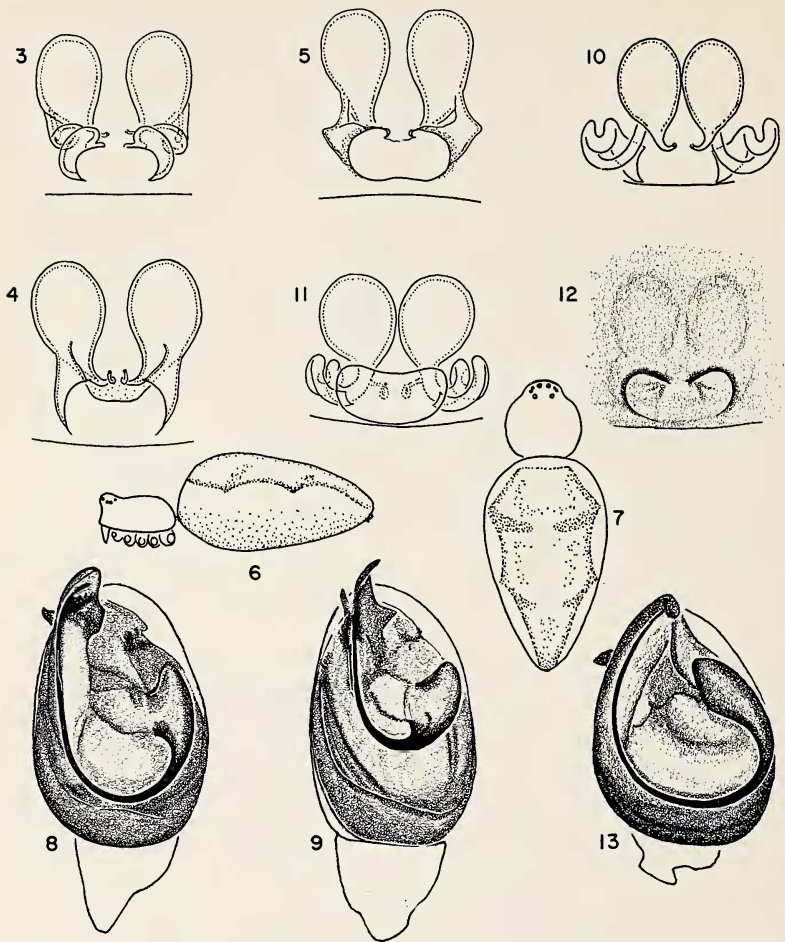
Problems. Two of the four American species are known from the type specimens only. The two other species, *T. affinis* and *T. bracteata* are widespread and probably have been confused with each other, a reason for not copying literature records. It is of interest that the species have not been collected in the same vicinity; they may have similar ecological requirements (Map 2).

In the American Museum of Natural History is a *Thwaitesia* with an epigynum similar to that of *T. bracteata* but with ducts parallel and seminal receptacles more anterior. The abdomen is low, subtriangular, widest anterior and without silvery spots. The specimen is from Minnehaha Springs, 700 m, Pocahontas County, West Virginia, July 1948 (K. W. Haller) and is believed to be exotic.

Figure 2. Variation in palpal structure of *Spintharus* south of the United States. K. Manzanillo, Colima, Mexico. L. Huauchinango, Puebla, Mexico. M. Las Casas, Chiapas, Mexico. N. Tenejapa, Chiapas, Mexico. O. Moca, Guatemala. P. San Isidro del General, Costa Rica. Q. El Volcán, Panama (one collection). R. El Volcán, Panama (second collection). S. Pico Turquino, Oriente, Cuba. T. Portland, Jamaica. U. Loma Rucilla, Dominican Republic. V. Rio de Janeiro, Brazil. W. Utcuyacu, Junín, Peru. (K-U, W are *S. flavidus*; V is *S. gracilis*)



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Figs. 3-9. *Spintharus flavidus* Hentz. 3-5. Epigynum cleared. 3. (Washington, D. C.). 4. (Peru). 5. (Belém, Brazil). 6, 7. Female, without legs. 8, 9. Left palpus. 8. (Washington, D. C.). 9. (Panama).

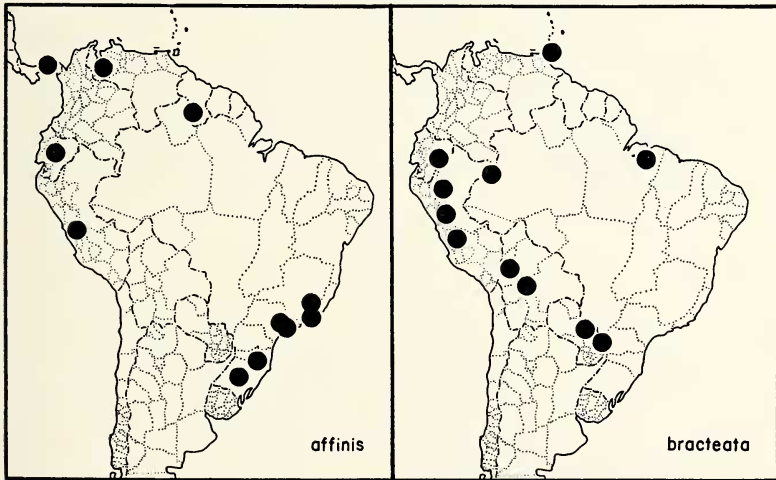
Figs. 10-13. *S. gracilis* Keyserling. 10. Female genitalia, dorsal view. 11. Epigynum, cleared. 12. Epigynum. 13. Palpus.

Thwaitesia affinis O. P.-Cambridge
 Figures 14-19

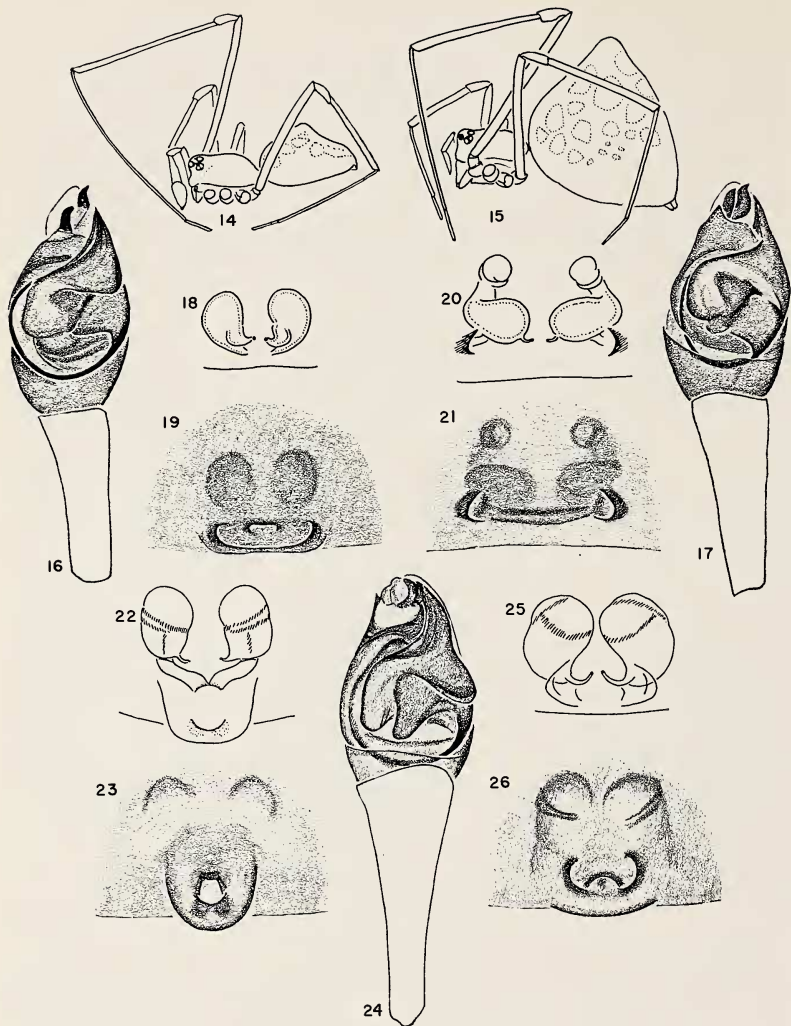
Thwaitesia affinis O. P.-Cambridge, 1882, Proc. Zool. Soc. London, 1882: 431, pl. 31, figs. 8a, ♀, ♂. Female, male syntypes from the Amazon, in the Hope Department of Entomology, Oxford, examined.

Thwaitesia adamantifera Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 164, pl. 7, fig. 101 (in part) ♀. Female lectotype here designated Maraynioc, [Junin], Peru in the Polish Academy of Sciences, Warsaw, examined. Male paratype from Minas Gerais [Brazil] in the O. P.-Cambridge collection in the Hope Department of Entomology, Oxford, examined. Female, male paratypes from Rio de Janeiro in the Keyserling collection in the British Museum, examined. NEW SYNONYMY.

Description. Carapace, sternum and legs yellowish. Distal ends of tibiae brown. Abdomen yellowish with silvery spots on dorsum. Carapace with clypeus projecting. Eyes subequal in size. Anterior median eyes one diameter apart, almost touching laterals. Posterior median eyes one diameter apart, two-thirds diameter from laterals. Abdomen subtriangular (Fig. 15), male not as high (Fig. 14). Epigynum with an oval depression wider than long, a pocket on each side and openings apparently in center (Fig. 19). Palpus as illustrated by Figures 16, 17. Total length of female 4.5 mm. Carapace, 1.6 mm long, 1.3 mm wide. First femur, 3.5 mm; patella and tibia, 3.6 mm; metatarsus, 3.9 mm; tarsus, 0.7 mm. Second patella and tibia, 2.1 mm; third, 1.2 mm; fourth, 3.2 mm. Total length of the male, 2.7 mm. Carapace, 1.1 mm long, 1.0 mm wide. First femur, 3.5 mm; patella and tibia, 3.5 mm; metatarsus, 3.9 mm; tarsus, 0.7 mm.



Map 2. Distribution of *Thwaitesia affinis* and *T. bracteata*.



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Second patella and tibia, 1.7 mm; third, 1.0 mm; fourth, 2.5 mm.

Records. *Panama:* Barro Colorado Isl.; Forest Reserve; Chilibre; Fort Davis; Arraiján; Summit; Fort Randolph; Fort Sherman; Madden Dam; (A. M. Chickering). *Las Sabanas* (N. Banks). *Venezuela. Mérida:* Timotes (SMF). *Ecuador.* Tungurahua, 2200 m (W. C. Macintyre). *Peru. Junin:* Maraynioc (Keyserling coll., BMNH). *British Guiana.* Rupununi Riv., near Mt. Makarapan (W. G. Hassler, AMNH). *Brazil. Minas Gerais:* Vicosá (Hambleton, AMNH). *Guanabara:* Sumaré, Rio de Janeiro (sev. coll.). *Est. Rio de Janeiro:* Teresópolis (H. Sick, AMNH); Petropolis (H. Sick, AMNH). *São Paulo:* Cidade São Paulo (sev. Coll.); Guapituba (N. L. H. Krauss, AMNH); Itú (A. M. Nadler, AMNH). *Paraná:* Rolândia (A. Maller, AMNH). *Santa Catarina:* Pinhal (A. Maller, AMNH); Nova Teutonia, lat 27° 11' S, 52° 23' W (F. Plaumann, SMF). *Paraguay.* Territ. Fociere (E. Reimoser). *Alto Paraná:* Hernandarias, 25° S; 55° W (C. J. D. Brown).

Thwaitesia bracteata (Exline)

Figures 22-24

Thwaitesia adamantifera Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 164. In part from Soriano, Peru, not *T. affinis* O. P.-Cambridge.

Topo bracteatus Exline, 1950, Studies Honoring Trevor Kincaid, 1950: 114, pl. 1, figs. 1, 6, pl. 2, fig. 15, ♀. Female holotype from junction of Pastaza and Topo Rivers, Province Napo, Ecuador, in the Museum of Comparative Zoology, examined.

Description. Carapace, sternum, legs yellowish. Abdomen yellowish with silvery spots on dorsal portion. Anterior median eyes slightly larger than others. Anterior median eyes two-thirds their diameter apart, almost touching laterals. Posterior median eyes almost one diameter apart, their radius from laterals. The eyes of the male slightly smaller than those of female. Total length of female, from Peru, 4.3 mm. Carapace 1.7 mm long, 1.3 mm wide. First femur, 3.2 mm; patella and tibia, 3.4 mm; metatarsus, 3.7 mm; tarsus, 0.8 mm. Third patella and tibia, 1.3 mm. Total length of male, 2.9 mm. Carapace, 1.4 mm long, 1.2 mm wide. First femur,

Figs. 14-19. *Thwaitesia affinis* O. P.-Cambridge. 14. Male. 15. Female. 16, 17. Left palpus. 18. Female genitalia, dorsal view. 19. Epigynum.

Figs. 20, 21. *T. simoni* (Keyserling). 20. Epigynum, cleared. 21. Epigynum.

Figs. 22-24. *T. bracteata* (Exline). 22. Epigynum, cleared. 23. Epigynum. 24. Palpus.

Figs. 25-26. *T. splendida* Keyserling. 25. Epigynum, cleared. 26. Epigynum.

4.3 mm; patella and tibia, 4.4 mm; metatarsus, 5.0 mm; tarsus, 0.9 mm. Second patella and tibia, 2.2 mm; third, 1.4 mm; fourth, 3.4 mm.

Diagnosis. The palpus of *T. bracteata* has a longer tibia and a different tip than that of *T. affinis*. The depression in the epigynum is almost square and on a projection (Figs. 22-24).

Natural History: The type specimens were found on underside of a leaf.

Records. *Trinidad.* Port of Spain, 1913 (R. Thaxter). *Colombia.* *Amazonas:* Leticia (J. N. Layne). *Peru:* *Huánuco:* Tingo María, 8 Oct. 1946 (J. C. Pallister, AMNH); Monzón Valley, Tingo María (E. I. Schlinger and E. S. Ross, CAS). *San Martín:* Moyobamba, 20 Dec. 1949 (J. C. Pallister, AMNH); Mishqui-yacu, 20 km NE of Moyobamba, 1600 m, Aug. 1947 (F. Woytkowski, AMNH). *Ayacucho:* Soriano (K. Jelski, PAS). *Brazil.* *Pará:* Belém, Feb. 1959, ♀, ♂ (A. M. Nadler, AMNH). *Paraguay:* *Concepción:* Apa, 1909 (AMNH) *Alto Paraná:* Taquarazapa (AMNH). *Bolivia.* *Cochabamba:* El Palmar, Chapare, 900-1000 m, Sept. 1956, ♀ (L. Peña, ISNB). *La Paz:* Chulumani, 1700 m, Dec. 1955, ♀ (L. Peña, ISNB).

Thwaitesia splendida Keyserling

Figures 25-26

Thwaitesia splendida Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 166, pl. 8, fig. 102. Female holotype from "Neu Granada" [Colombia, Panama and Venezuela] in the British Museum, examined.

Thwaitesia simoni (Keyserling)

Figures 20-21

Hildbolda simoni Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 157, pl. 7, fig. 97, ♀. Female holotype from "Le Para" [Belém, Pará, Brazil], in the Muséum National d'Histoire Naturelle, Paris, examined. Keyserling wrote that this species came from "Boston"; it does not occur in North America and the label in the vial indicates a Brazilian locality.

Thwaitesia simoni,—Petrunkevitch, 1911, Bull. Amer. Mus. Nat. Hist., 29: 212.

The abdomen of this species is wider than high with silvery spots.

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